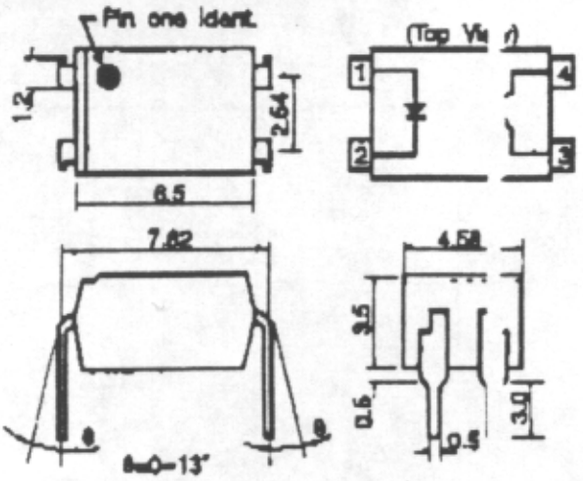
P/N 138077 Pg. 28

ISP817, ISP827, ISP847

High Density Mounting Optically Coupled Isolators.

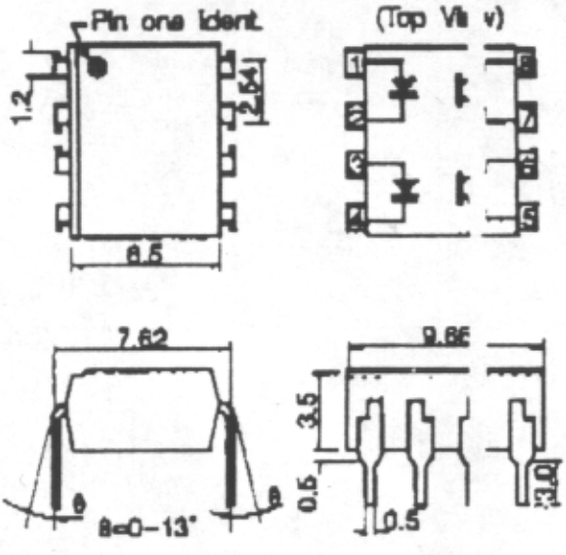
PACKAGE DIMENSIONS / SCHEMATICS

ISP817



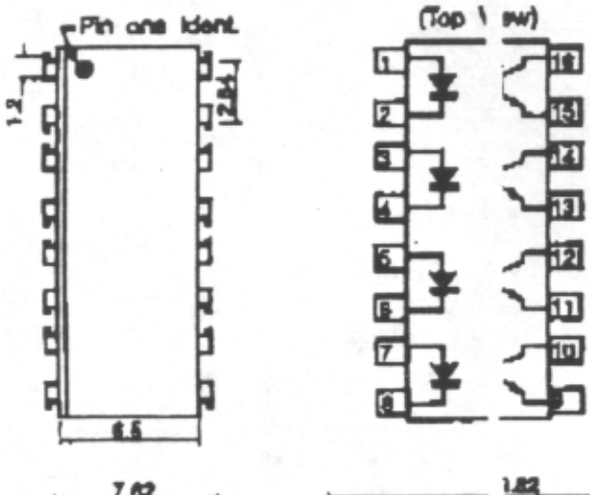
(All Dimensions in mm.)

ISP827



(All Dimensions in mm.)

ISP847



FEATURES

High DC current transfer
High input - output Isolati
Compact dual-in-line pack
All electrical parameters l
Special selections availab

APPLICATIONS

Computer terminals.
Industrial systems controll
Measuring instruments.
Signal transmission betwe
potentials and impedances

DESCRIPTION

The ISP817, ISP827 and I
isolators consist of infra-r
silicon photo-transistors i
plastic packages.

ABSOLUTE MAXIMUM

Storage Temperature
Operating Temperature
Lead Soldering Temperatu
(1/16 inch (1.6mm

Input Diode
Forward D.C. Current
Reverse D.C. Voltage
Peak forward current
Power Dissipation

Output Transistor

Collector-Emitter Voltage
Emitter-Collector Voltage
Power Dissipation

Package

ELECTRICAL CHARACTER

(25°C Unless otherwise stated)

Parameter	Symbol	Min.	Typ.	Max.
Forward Voltage	V_F		1.2	1.4
Reverse Voltage	V_R	6.0		
Reverse Current	I_R			10
Collector-Emitter Breakdown	BV_{CEO}	35		
Emitter-Collector Breakdown	BV_{ECO}	5		
Collector-Emitter dark current	I_{CEO}			100
Current Transfer Ratio	CTR			
ISP817(27,47)		50		600
ISP817(27,47)-GB		100		600
ISP817(27,47)-BL		200		600
Collector-Emitter saturation Volts.	$V_{CE}(sat)$		0.1	0.2
Input-Output Isolation Voltage	V_{ISO}	5000		
Input-Output Isolation Resistance	R_{ISO}	$5x10^{10}$		
Output rise time.	t_r		4	18
Output fall time.	t_f		3	18

Typical Characteristic Curves (Tamb. = 25°C unless

Fig. 1

Forward Current Vs. Ambient Temperature

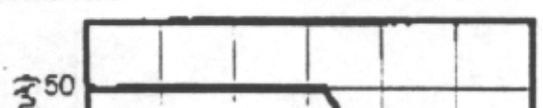
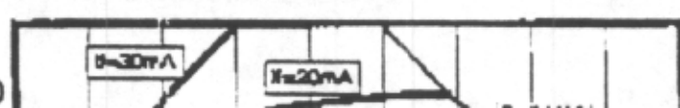


Fig. 2

Collector Current Vs. Collector-emitter Voltage



ISOCOM COMPONENTS

IN-LINE PACKAGES

Four pins per channel with in line LED's and Transistors

Part Number	Features	Current Transfer Ratio I_F = 5mA (%)	Isolation Test Voltage V RMS	Continuous Forward Current Max (mA)	VBR LED I_R = 10μA Min (V)	BV$_C$ I_C = 1 Min
ISP321-1	Optically Coupled pair with infrared LED. Emitter and NPN Silicon Photo Transistor	50 - 600 CTR Selection Available "GB" 100% Min "BL" 200% Min	5000	50	5	80
ISP621-1						55
ISP521-1			2500			
ISP817			5000			35
ISP321-2	Two Isolators in one Package Independently Isolated from each other					80
ISP621-2						55
ISP521-2			2500			
ISP827			5000			35
ISP321-4	Four Isolators in one Package Independently Isolated from each other					80
ISP621-4						55
ISP521-4			2500			
ISP847			5000			35

AC Input

Single Channel, 6 and 4 Pin DIP

Part Number	Features	Current Transfer Ratio Min I_F = ± 10mA	Isolation Breakdown Voltage V (RMS)	Continuous Forward Current Max (mA)	V_F LED I_F = ± 10mA Max (V)	BV$_{CEO}$ I_C = 1mA Min (V)
H11AA4	Optically Coupled pair with two Infrared LED Emitter connected in Inverse Parallel and a NPN Transistor	100	2500	60	1.5	30
H11AA3		50				
H11AA2		10				
H11AA1		20				
CNY35		10				
IS604		50	5000			
ISP814 NEW		20 (I_F = ±20mA)		50	1.4 (I_F = ±20mA)	35

Coupler Package D

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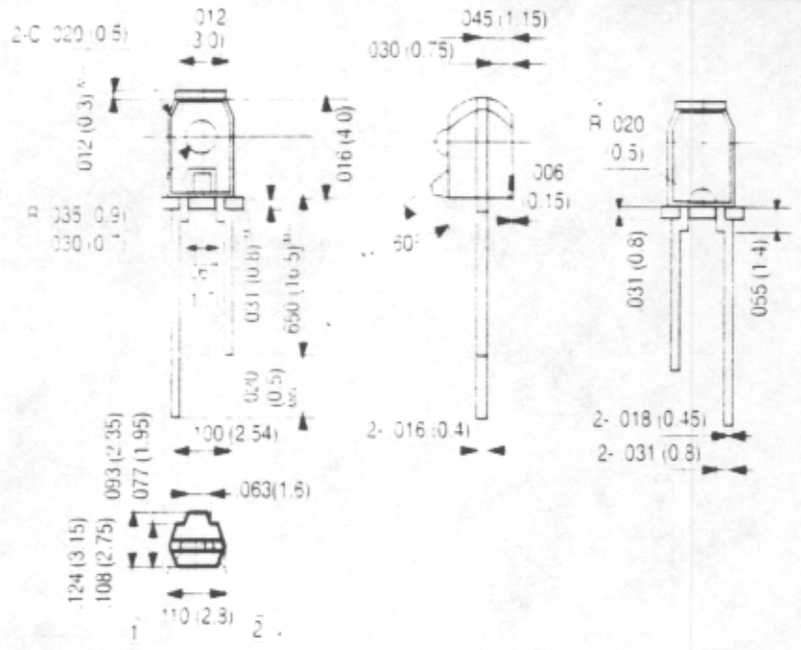

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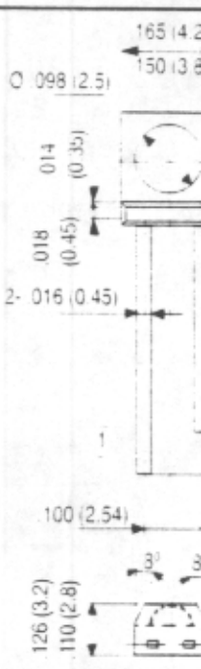

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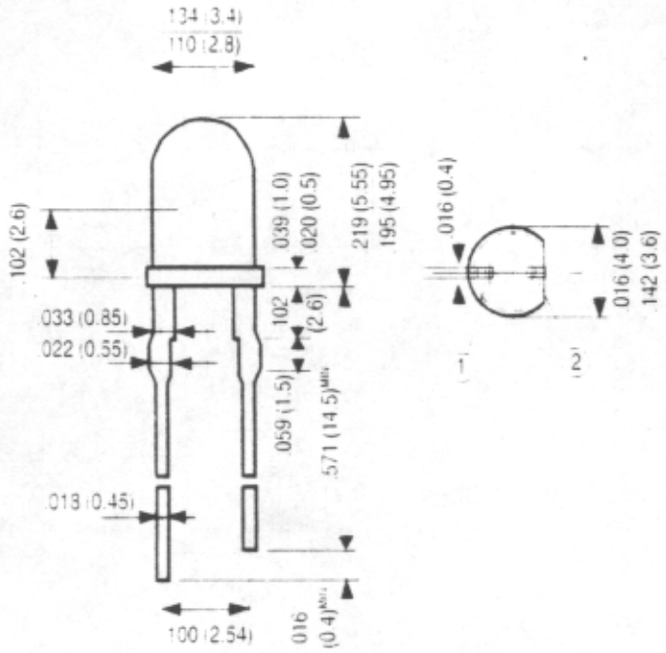

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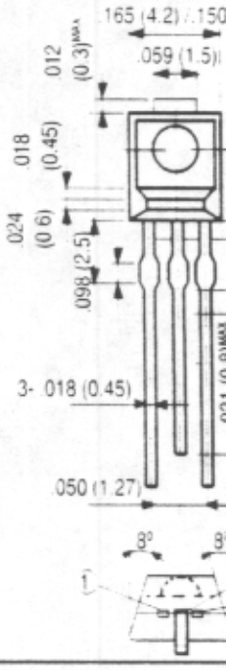

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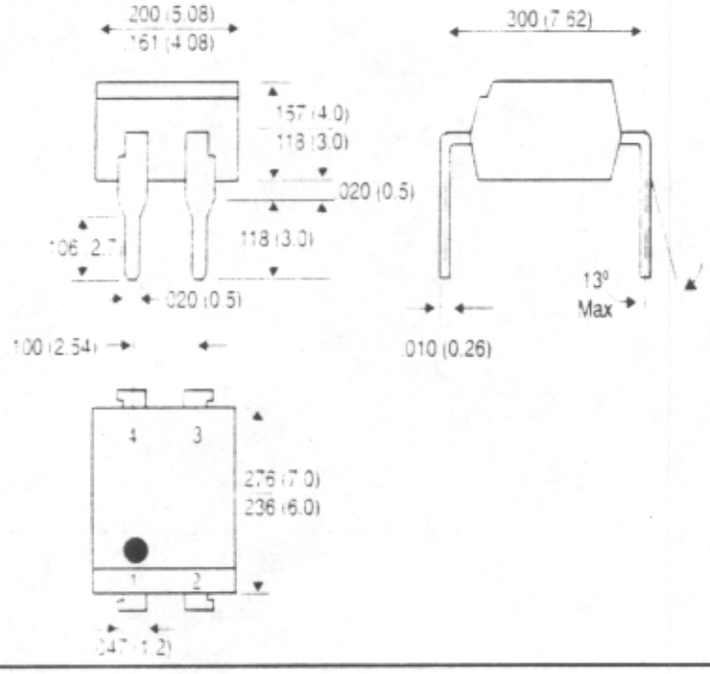

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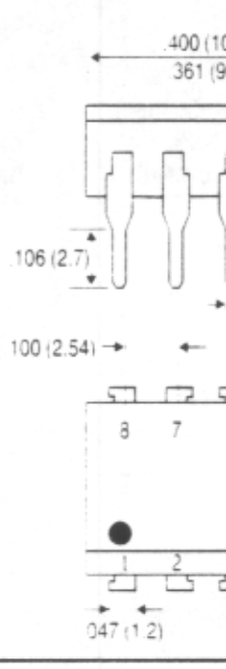

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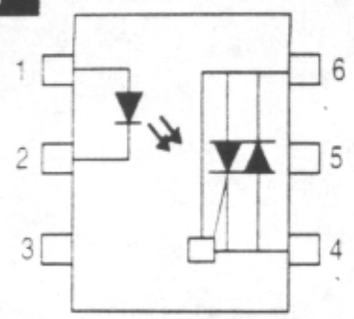
Coupler Schematics

1



ZERO CROSSING CIRCUIT

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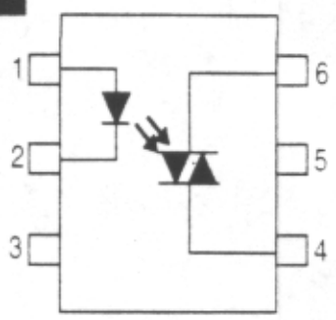

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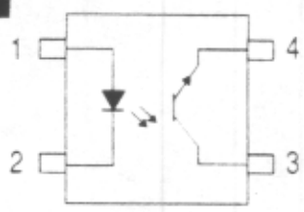

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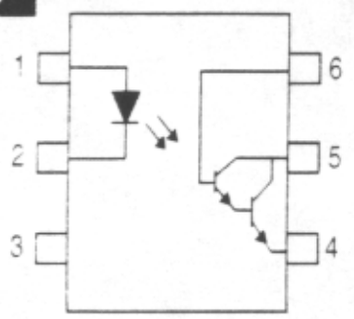

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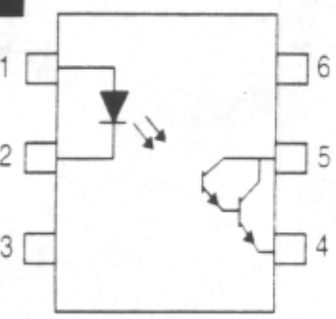

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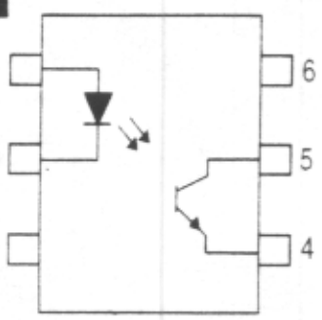

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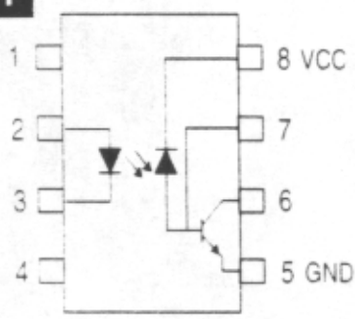

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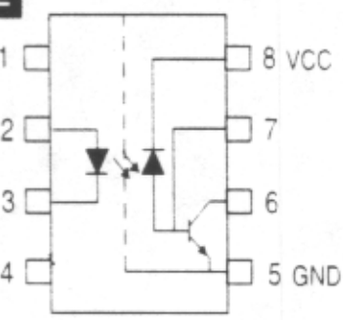

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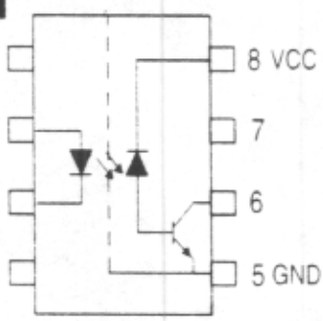

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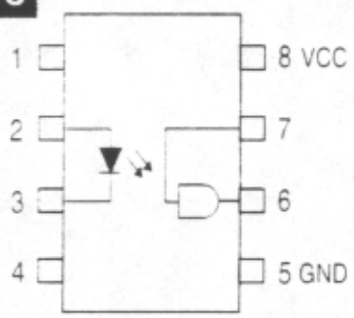

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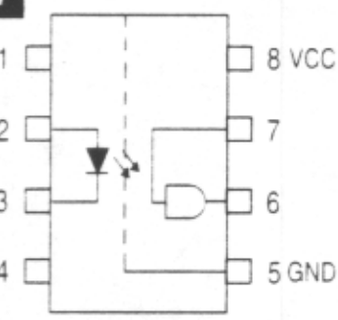

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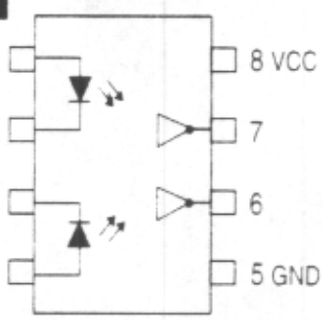

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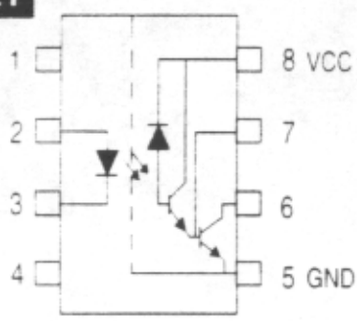

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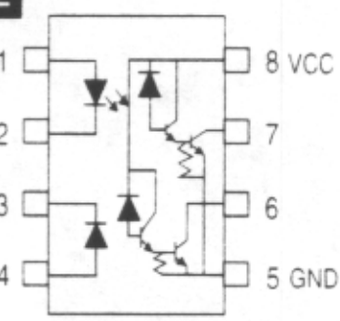

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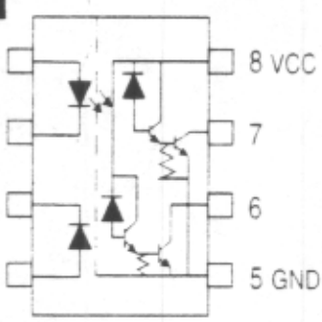

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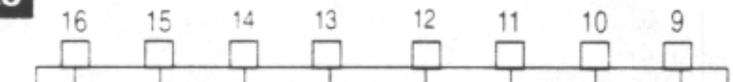

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